Attorney Docket No. 2391



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

RADEM Te Application of:

WANG

Group Art Unit: 2186

Serial No. 10/828,877

Examiner: Unassigned

Filed: April 20, 2004

For:

Efficient Write-Watch Mechanism Useful For Garbage Collection In A

Computer System

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents Alexandria, VA 22313-1450

Pursuant to 37 C.F.R. §§ 1.97 and 1.98, the references listed on the enclosed Form PTO-1449 are submitted herewith for consideration by the Examiner in the examination of the above-identified patent application. The full consideration of the references in their entirety by the Examiner is respectfully requested and encouraged. Also, it is respectfully requested that the references be entered into the record of the present application and that the Examiner place his or her initials in the appropriate area on the enclosed Form PTO-1449, thereby indicating the Examiner's consideration of each of the references.

The submission of the references listed on the Form PTO-1449 is for the purpose of providing a complete record and is not a concession that the references listed thereon are prior art to the invention claimed in the patent application. The right is expressly reserved to establish an invention date earlier than the above-identified filing date in order to remove any reference submitted herewith as prior art should it be deemed appropriate to do so. Further, the submission of the references is not to be taken as a concession that any reference represents art that is relevant or analogous to the claimed invention. Accordingly, the right to argue that any reference is not properly within the scope of prior art relevant to an examination of the claims in the above-identified application is also expressly reserved. Note that copies of the references are not being submitted. All references were previously cited in the parent application Serial No. 09/628,708, filed July 31, 2000.

The Information Disclosure Statement is believed to be filed before the mailing date of a first Office action on the merits. Accordingly, no fee is owed by applicant. If, however, an Office action has been issued, the Patent Office is hereby authorized to charge any underpayments associated with this submission to Deposit Account 50-1618.

Albert S. Michalik, Reg. No. 37,395

Attorney for Applicants

Law Offices of Albert S. Michalik, PLLC

704 - 228th Avenue NE, Suite 193 Sammamish, Washington 98074

(425) 836-3030 (telephone)

(425) 836-8957 (facsimile)

In re Application of WANG Serial No. 10/828.877

CERTIFICATE OF MAILING

I hereby certify that this INFORMATION DISCLOSURE STATEMENT and PTO form 1449 are being deposited with the United States Postal Service on the date shown below, with sufficient postage as first class mail, in an envelope addressed to: Commissioner for Patents, Alexandria, VA 22313-1450.

Date: October 14, 2004

Albert S. Michalik

2391 IDS Statement.doc

FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE	ATTY. DOCKET NO.	SERIAL NO.
IPE	PATENT AND TRADEMARK OFFICE	2391	10/828,877
C ROTORM	ATION DISCLOSURE STATEMENT	APPLICANT	
nci 19 max	BY APPLICANT	Wang	
N	Use several sheets if necessary)	FILING DATE	GROUP
Trees a country		April 20, 2004	2186
& THAC.			

				ENT DOCUMENTS			FILING	
EXAMINER'S		PATENT	ISSUE	NAME.	CI A SS	CLIDCI ACC	APPROI	
INITIALS	AA	NUMBER 4,989,134	DATE 01/29/91	NAME Shaw, Robert A.	CLASS	SUBCLASS	APPROI	PRIATE
-		5,237,673	08/19/93	Orbits et al.				
	AB							
	AC	5,842,016	11/24/98	Toutonghi et al.				
	AD	5,845,298	12/01/98	O'Connor et al.				
	AE	5,848,423	12/08/98	Ebrahim et al.			ļ	
	AF	5,857,210	01/05/99	Tremblay et al.				
	AG	5,873,104	02/16/99	Tremblay et al.				
	AH	5,873,105	02/16/99	Tremblay et al.			ļ	
	ΑI	5,900,001	05/04/99	Wolczko et al.				
	AJ	5,903,899	05/11/99	Steele, Jr.				
	AK	5,903,900	05/11/99	Knippel et al.				
	AL	5,909,579	06/01/99	Agesen et al.				
	AM	5,911,144	06/08/99	Schartz et al.				
	AN	5,915,255	06/22/99	Schartz et al.				•
	AO	5,920,876	07/06/99	Ungar et al.				
	AP	5,930,807	07/27/99	Ebrahim et al.				
	AQ	5,953,736	09/14/99	O'Connor et al.				
	AR	6,249,793	06/19/01	Printezis et al.				
			FOREIGN F	ATENT DOCUMENTS				
:		DOCUMENT	PUBLICATION		T		TRANSI	
		NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	YES	NO*
	<u> </u>							<u> </u>
				ing Author, Title, Date, Per				
	AS	Anonymous, ".	A Comparison of	Inferno and Java," Co tion/White Papers/infern	omputing Sc noisys html n	iences Researc winted July 12	ch of Be. 1999	ll Labs
	AT	Anonymous, "B	lue – What is it," htt	p://www.sd.monash.edu.au	/blue/what-is	it.html printed	July 9, 199	9.
	AU	Anonymous, "Cmm and Java Compared: A Comparison of Modern Languages for the Internet and Worldwide						
	_	Web," (1997), http://nombas.com/us/otherdoc/javavcmm.html printed July 12, 1999.						
	AV	Anonymous, "Elements of Comparison Java/Hotjava vs. Caml/MMM,' http://pauillac.inria.fr/~rouaix/mmm/currentjavacomp.html printed May 28, 1999.						
	AW	Anonymous, "OVERSION 3.3.9	Garbage Collection O, http://eiffel.com/de	for ISC Eiffel: An Ove oc/manuals/technology'inte	rview," <i>ISE</i> rnal/gc/page.	Technical Rep html printed Ju	ly 30, 199	9.
	AX	Anonymous,	"Object	 Oriented ology/oo_comparison/page. 	Language	s: A	Com	parison,
	AY			cm.bell-labs.com/cm/cs/wh				

FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. 2391	SERIAL NO. 10/828,877
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		APPLICANT Wang	
(Use	several sheets if necessary)	FILING DATE April 20, 2004	GROUP 2186

		OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)
	AZ	Atkinson et al., "Experiences Creating a Portable Cedar," Proceedings of the Sigplan '89 Conference on Programming Language Design and Implementation, Sigplan Notices, Vol. 24, No. 7, Pages 322-329 (June 21-23, 1989).
	BA	Aubrey, David, "Lucent's Inferno: A Devil of an OS," Communications Week, No. 633 (October 14, 1996).
	BB	Bak et al., "The New Corp of Java Virtual Machines," ACM Sigplan Notices, Vol. 33, No. 10, pp 179-182 (October 1998).
	BC	Barrett et al., "Garbage Collection using a Dynamic Threatening Boundary," ACM Sigplan Notices, Vol. 30, No. 6, pp 301-314 (1995).
	BD	Benett, John K., "The Design and Implementation of Distributed Smalltalk," Proceedings of the Second ACM Conference on Object Oriented Programming Systems, Languages and Applications, Pages 318-330 (October 4-5, 1987).
	BE	Birrell et al., "Network Objects." Software Practice and Experience, Vol. 25, No. S4, Pages S4/87-S4/130 (December 1995).
	BF	Boehm et al., "Garbage Collection in an Uncooperative Environment," Software – Practice and Experience, Vol. 18, No. 9, Pages 807-820 (September 1988).
	BG	Böszörmenyi, Laszlo, "A Comparison of Modula-3 and Oberon-2 (extended version)," Structured Programming, Vol. 14, Pages 15-22 (1993).
	ВН	Brandis et al., "The Oberon System Family," Institute for Computersysteme, Pages 1331-1366 (April 25, 1995).
	BI	Cahill et al., "Interfacing a Language to the Virtual Machine," The Commandos Distributed Application Platform, Springer-Verlag, Pages 209-233 (1993).
	BJ	Cardelli et al., "Modula-3 Report (revised)," SRC Research Report 52, Preface, (November 1, 1989), http://gatekeeper.dec.com/pub/DECreports/abstracts/src-rr-052.html printed June 1, 1999.
	BK	Cardelli et al., "The Modula-3 Type System," Conference Record of the 16th Annual ACM Symposium on Principals of Programming Languages, Pages 202-212 (1989).
	BL	Caudill et al., "A Third Generation Smalltalk-80 Implementation," ACM Sigplan 1986 Conference on Object Oriented Programming Systems, Languages and Applications (OOPSLA '86), pp119-129 (1986).
	ВМ	Chambers et al., Object-Oriented Programming: Systems, Languages and Applications OOPSLA '89 Conference Proceedings Sigplan Notices, Vol. 24, No. 10, Pages49-70 (October 1-6, 1989).
	BN	Clark et al., The UCSD Pascal Handbook: A Reference and Guidebook for Programmers, ChVIII, IX, X, Pages 153-172 (1982).
	ВО	de Figueiredo et al., "The Design and Implementation of a Language for Extending Applications," Proceedings of XXI Brazilian Seminar on Software and Hardware, Pages 273-283 (1994).
	BP	de Figueiredo et al., "Lau: An Extensible Embedded Language," Dr. Dobb's Journal, Vol. 21 No. 12, Pages 26-28, 32-33, 88, 90 (December 1996).
	BQ	Deutsch et al., "An Efficient, Incremental, Automatic Garbage Collector." Communications of the ACM, Vol. 19, No. 9, Pages 522-526 (September 1976).
	BR	Diwan et al., "Complier Support for Garbage Collection in a Statistically Typed Language," ACM Sigplan Notices, Vol. 27, No. 7, Pages 273-282 (1992).
·	BS	Diwan, Amer Sulman, "Understanding and Improving the Performance of Modern Programming Languages," Department of Computer Science, University of Massachusetts (Amherst), Pages 1-137 (February 1997).
	BT	Doligez et al., "A Concurrent Garbage Collector for Multithreaded Implementation of ML," Papers of the 20 th ACM Symposium on Principals of Programming Languages, Pages 113-123 (January 10-13, 1989).

FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. 2391	SERIAL NO. 10/828,877
INFORMAT	ION DISCLOSURE STATEMENT BY APPLICANT	APPLICANT Wang	
(Use	several sheets if necessary)	FILING DATE April 20, 2004	GROUP 2186

	1	
		OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)
	BU	Dömel, Peter, "Molbile Telescript Agents and the Web," Compcon '96 Technologies for the information Superhighway Digest of Papers, Pages 52-57 (1996).
	BV	Doward et al., "Inferno" Proceedings IEEE Compcon 97, Pages 241-244 (February 23-26, 1997).
	BW	Doward et al., "Programming in Limbo," Compcon 1997 Proceedings of IEEE Conference, Pages 245-250 (1997).
	BX	Evans et al., "Garbage Collection and Memory Management," OOPSLA '97, Addendum to the 1997 ACM SIGPLAN Conference on Object Oriented Programming, Systems, Languages and Applications, Pages 138-143 (1997).
	BY	Fischer, André, "The Oberon Home Page," <i>Institute for Computersysteme</i> (July 5, 1999), http://www.oberon.ethz.ch/oberon.html printed July 7, 1999.
	BZ	Fischer, André, "Oberon System 3 White Paper," Institute for Computersysteme (February 11, 1999), http://www.oberon.ethz.ch/oberon/system3/white.html printed July 8, 1999.
	CA	Floyd, Michael, "Comparing Object Oriented Languages," Dr Dobb's Journal, Vol. 18, No. 11, Pages 104-105, 118 (October 1993).
	СВ	Franz et al., "Introducing Juice," (October 30, 1996), http://caesar.ics.uci.edu/juice/intro/.html printed July 7, 1999.
	CC	Gosling et al., "The Java Language Environment: White Paper," Pages 12-16, 70-73 (May 1996).
····	CD	Gosling et al., The NeWS Book: An Introduction to the Network/extensible Window System, Pages 109-112, 147-161 (1989).
	CE	Gosling, James, "SunDew: A Distributed and Sensible Window System," Proceedings of the 1996 Winter Usenix Technical Conference, Pages 98-103 (1996).
	CF	Griswold, Ralph E., The Macro Implementation of SNOBOL4: A Case Study of Machine-Independent Software Development, Ch. 4, Pages 51-55, Ch. 5, Page 56, Ch. 6, Pages 65-78, Ch. 7, Pages 79-95, Ch. 9, Pages 142-155 (1972).
	CG	Haddon et al., "Experience with the Universal Intermediate Language Janus," Software-Practice and Experience, Vol. 8, No. 5, Pages 601-616 (May 3, 1978).
	СН	Harbison, Sam, "Modula-3," Byte, Vol. 15, No. 12, Pages 385-392. (November 1990).
	CI	Harbison, Sam, "The Modula-3 Programming Language," Dr Dobb's Journal, Vol. 19, No. 12, Pages 24-30 (Winter 1994).
	CJ	Henderson et al., "A Comparison of Object-Oriented Programming in Four Modern Languages," Software-Practice and Experience, Vol. 24, No. 11, Pages 1078-1095 (June 20, 1994).
	CK	Holzle, Urs, "Adaptive Organization for SELF: Reconciling High Performance with Exploratory Programming," Department of Computer Science, Stanford University (August 1994).
	CL	Howard, Rock, "A Quick Overview (Eiffel)," Journal of Object Oriented Programming, Vol. 5, No. 8, Pages 76-78 (January 1993).
	СМ	Hudson et al., "Adaptive Garbage Collection for Modula-3 and Smalltalk," OOPSLA/ECOOP '90 Workshop on Garbage Collection in Object-Ooriented Systems, Pages 1-5 (October 27, 1990).
	CN	Hudson et al., "A Language Independent Garbage Collector Toolkit," University Massachusetts at Amherst, Department of Computer and Information Science, Technical Report, Pages 1-23 (September 1998).
	СО	Huelsbergen et al., "Very Concurrent Mark-&Sweep Garbage Collection without Fine Grain Synchronization," ACM Sigplan Notices, Vol. 34, No. 3, Pages 166-175 (1998).

FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. 2391	SERIAL NO. 10/828,877
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		APPLICANT Wang	
(Use	several sheets if necessary)	FILING DATE April 20, 2004	GROUP 2186

		OTHER POOLINGS TO A LANGE THE PART PART PART PART
	 _	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)
	СР	Hugunin, Jim, "Python and Java: The Best of Both Worlds," Proceedings of the 6th Annual Python Conference (1997) http://www.python.org/workshops/1997-10/proceedings/hugunin.html printed August 11, 1999.
	CQ	Jordan, Mick, "An Extensible Programming Environment for Modula-3," SIGSOFT Software Engineering Notes, Vol. 15, No. 6, Pages 66-76 (1990).
· · · · · · · · · · · · · · · · · · ·	CR	Jul et al., "Fine Grained Mobility in the Emerald System," ACM Transactions in Computer Systems, Vol. 6, No. 1, Pages 109-133 (February 1988).
	CS	Kolling et al., "Blue-A Language for Teaching Object-Oriented Programming," <i>Proc.</i> 27 th SIGSCE Technical Symposium on Computer Science Education, Pages 190-194 (March 1996).
	СТ	Kolling et al., "Requirements for a First Year Object-Oriented Teaching Language," SIGSCE Bulletin, 27(1), pp 173-177 (March 1995).
	CU	Lampson, Butler W., "A Description of the Cedar Language: A Cedar Language Reference Manual," Xerox Corp., Palo Alto Research Center, CSL-83-15, Pages 2-32 (December 1983).
	CV	Lim et al., "A Memory Efficient Real-Time Non-Coping Garbage Collector," ACM Sigplan Notices, Vol. 34, No. 3, Pages 118-129 (1998).
	CW	Marais et al., "An Overview of Oberon," Institute for Computersysteme (May 8, 1996), http://www.ics.uci.edu/~oberon/intro.html printed July 7, 1999.
	СХ	Milos et al., "Direct Implementation of Compiler Specifications of the Pascal P-Code Compiler Revisited," Conference Record of the 11 th Annual ACM Symposium on Principals of Programming Languages, Pages 196-207 (January 15-18, 1984).
	CY	Moon, David A., "Garbage Collection in a Large Lisp System," Conference Record of the 1984 Symposium on LISP and Functional Programming, Pages 235-246 (1984).
	CZ	Mössenböck et al., "The Programming Language Oberon-2," Institute for Computersysteme, Report 156, Pages 1-26 (March 1991).
	DA	Murer et al., "Iteration Abstracter in Sather," ACM on Programming Languages and Systems, Vol. 23, No. 1, Pages 1-15 (January 1996).
	DB	Nettles et al., "Real-Time Replication Garbage Collection," ACM Sigplan Notices, Vol. 23, No. 6, Pages 217-226 (1993).
	DC	Oritz, Sizto Jr., "The Battle Over Real-Time Java," Computer, Pages 13-15 (June 1999).
	DD	O'Toole et al., "Concurrent Replicating Garbage Collection," ACM Sigplan Lisp Pointers, Vol. VII, No. 3, Pages 34-42 (1994).
	DE	Rémy et al., "Objective Calm – A General Purpose High-Level Programming Language," <i>ERCIM News</i> , No. 36, http://calm.inria.fr/ercim.html printed June 1, 1999.
	DF	Robinson, Peter, "Modula-3 in an Undergraduate Computer Science Course," The Second International Modula-2 Conference: Modula-2 and Beyond, Pages 154-163 (September 11-13, 1991).
	DG	Romer et al., "The Structure and Performance of Interpreters," ACM SIGOOPS Operating Systems Review, Vol. 30, No. 5, Pages 150-159 (1996).
	DH	Rook, David, "A Language Collector Comments On: Java, Perl & Python," (October 1997), http://www.chips.navy.mil/chips/archives/97 oct/file12.html printed July 12, 1999.
	DI	Schmidt et al., "CLOS, Eiffel and Sather: A Comparison," International Computer Science Institute, Technical Report No. TR -91-047, Pages 1-24 (September 1991).
	DJ	Shiffman, Hank, "Making Sense of Java," http://www.disordered.org/Java-QA.html printed July 12, 1999.
	<u> </u>	

FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. 2391	SERIAL NO. 10/828,877
INFORMA'	TION DISCLOSURE STATEMENT BY APPLICANT	APPLICANT Wang	
(Us	e several sheets if necessary)	FILING DATE April 20, 2004	GROUP 2186

		OTHER DOCUMENTS (Including Author Title Date Portions Proces Etc.)
	DK	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) Skulski, Wojtek, "Oberon Resources for Linux," (June 1998),
	ן אַע	http://linux).nsrlochester.edu/~skulski/LinuxOberon.html printed July 8, 1999.
	DL	Smith et al., "Comparing Mostly-Coping and Mark-Sweep Conservative Collection," ACM Sigplan Notices,
		Vol. 34, No. 3, Pages 68-78 (1998).
	DM	Tardo et al., "Mobile Agent and Telescript," IEEE Compcon Pages 58-63 (1996).
	DN	Templ, Joesef, "Oberon vs. C++," The Modula Tor: Oberon-2 and Modula-2 Technical Publication, No. 9
	- DO	(October, 1994), http://www.modulaware.com/mdlt49.html printed July 7, 1999.
	DO	Thorn, Tommy, "Programming Languages for Mobile Code," ACM Computing Surveys, Vol. 29, No. 3, Pages 214-239 (September 1997).
	DP	van Rossum, Guido, "An Introduction to Python," Pages 1-4 (August 1997),
		http://www.python.org/doc/Summery.html printed June 2, 1999.
	DQ	van Rossum, Guido, "Extending and Embedding the Python Interpreter," Corporation for National Research Initiatives CNRI, Release No. 1.5.2., (July 1999), http://www.python.org/doc/ext/intro.html printed August 11, 1999.
	DR	Waddington et al., "Java: Virtual Machine for Virtually any Platform," Embedded Systems Programming, Vol. 9, No. 6, Pages 26-42 (June 1996).
	DS	Waldo, Jim, "Programming with Java," Unix Review, Vol. 14, No. 5, Pages 31-37 (May 1996).
	DT	Walton, Robert Lee, "R-Code a Very Capable Virtual Computer," Harvard University, Center for Research Computing Technologies, Technical Report No. TR-37-95, Pages 1-187 (October 1997).
	DU	Watters, Aaron R, "The What, Why, Who and Where of Python," (January 25, 1997), http://www.networkcomputing.com/unixworld/tutorial/005/005.html printed May 28, 1999.
	DV	Weiner, Richard, "Watch Your Language," IEEE Software, Vol. 15, No. 3, Pages 55-56 (May/June 1998).
	DW	Weis, Pierre, "What is Calm," (January 1996), http://calm.inria.fr/FAQ/general-eng.html printed June 1, 1999.
	DX	Weiser et al., "The Portable Common Runtime Approach to Interoperability," Operating Systems Reviews, Proceedings of the 12 th ACM Symposium on Operating System Principals, Vol. 23 No. 5, Pages 114-122 (December 3-6, 1989).
	DY	Wilder, Dan, "Introduction to Eiffel," Linux Journal, Vol. 14, Pages 34-39, 56, 60 (June 1995).
	DZ	Wilson, Paul, "Uniprocessor Garbage Collection Techniques," Proceeding of the 1992 Workshop on Memory Management, Pages 1-34 (1992).
-	EA	Youmans, Bryan, "Java: Cornerstone of the Global Network Enterprise," Virginia Tech, CS 3604 (February 7, 1997), http://ei.cs.vt.edu/~history/Youmans.Java.html printed July 8, 1999.
	ЕВ	Yurkoski et al., "Using Inferno to Execute Java on Small Devices," ACM Sigplan Workshop LCTES '98, Pages 108-118 (June 19-20, 1998).
	EC	Anonymous, "What is Inferno System," Inferno User's Guide, pages 1.1-1.14
	ED	Anonymous, "What is Python," http://www.python.org/doc/Summery.html printed June 2, 1999.
	EE	Agesen et al., "Garbage Collection and Local Variable Type Precision and Liveness in Java Virtual Machine," ACM Sigplan Notices, Vol. 33, No. 5, Pages 269-279 (May, 1998).